



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,100	06/22/2006	Franz Amtmann	AT03 0073 US1	1415
65913 NXP, B.V. NXP INTELLECTUAL PROPERTY DEPARTMENT M/S41-SJ 1109 MCKAY DRIVE SAN JOSE, CA 95131	7550 01/05/2009		<div>EXAMINER</div> <div>HSIEH, PING Y</div>	
			<div>ART UNIT</div> <div>2618</div>	<div>PAPER NUMBER</div>
			<div>NOTIFICATION DATE</div> <div>01/05/2009</div>	<div>DELIVERY MODE</div> <div>ELECTRONIC</div>

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary

Application No.

10/584,100

Applicant(s)

AMTMANN ET AL.

Examiner

PING Y. HSIEH

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4, 5 and 10-19 is/are rejected.
- 7) ☒ Claim(s) 2, 3 and 6-9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/808)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/11/08 has been entered.

Drawings

2. The drawings are objected to because the unlabeled rectangular box(es) shown in the drawings should be provided with descriptive text labels. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top

margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 5, 10-13, 16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paratore et al. (U.S. PATENT NO. 6,294,997).

-Regarding claims 1, 5 and 10, Paratore et al. disclose a method of determining a disconnection time information which is significant for a disconnection period in which disconnection period an integrated circuit of a data carrier designed for contactless communication with a communication partner device has not been adequately supplied with power by means of a power supply field **(the RFID tag which can measure the time that has elapsed after the last charging of the capacitor that acts as the main power source as disclosed in col. 2 lines 21-30)**, wherein at least one first storage capacitor of the integrated circuit is charged while the integrated circuit is being adequately

supplied **(the interrogating field provided by the RFID interrogator 100 induces a current in the inductor 14 which charges the capacitor 12 as disclosed in col. 4 lines 47-53)**, and wherein the at least one first storage capacitor is discharged from a first starting time when the integrated circuit is subsequently no longer adequately supplied **(the resistor coupled to the capacitor determines the amount of current leak from the capacitor after the capacitor has been fully charged as disclosed in col. 4 lines 3-16)**, and wherein the disconnection time information is determined on the basis of the discharge behavior, which is affected by the IC material and by radiation, of the at least one first storage capacitor **(the discharge behavior is affected by the IC material and temperature as disclosed in col. 5 lines 11-31 and col. 6 lines 28-51)**. Even though Paratore et al. fail to specifically disclose the determined disconnection time information is corrected in dependence on the effects of at least one of the IC material and at least one radiation effect, and on the basis of the discharge behavior of the at least one first storage capacitor, however, Paratore et al. disclose the timing module may include a resistor coupled to a charging capacitor **(col. 2 lines 23-26)**; the time can be calculated based on the rate of dissipation, which can be controlled through different valued resistors **(col. 2 lines 26-30)**; and increase in temperature can increase in conductivity in the resistor **(col. 5 lines 25-29)**. Since the timing module enables the user, upon interrogating the RFID tag, to determine the precise length of time from the previous charge of the RFID tag as disclosed in col. 2 lines 13-15, it

would have been obvious to one of ordinary skills in the art at the time of invention to modify the length of time that an RFID tag is exposed to a certain environmental condition to be corrected in dependence on the effects of the IC material or temperature. One is motivated as such in order to provide a more accurate tracking and identifying environment-sensitive goods as disclosed in col. 1 lines 51-58. Furthermore, although Paratore et al. does not specifically disclose the determined disconnection time information is corrected in dependence on discharge behavior of a second storage capacitor of the integrated circuit, it would have been obvious to one having ordinary skill in the art at the time the invention was made to correct disconnection time information in dependence on the rate of dissipation of a second capacitor, since it has been held that mere duplication of the essential working part of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

-Regarding claims 11-13, Paratore et al. disclose a circuit for determining disconnection time information for a disconnection period in which disconnection period an integrated circuit of a data carrier designed for contactless communication with a communication partner device has not been adequately supplied with power **(the RFID tag which can measure the time that has elapsed after the last charging of the capacitor that acts as the main power source as disclosed in col. 2 lines 21-30)**, the circuit comprising at least one first storage capacitor arranged in the integrated circuit for discharging from a first starting time when the integrated circuit is subsequently no longer

adequately supplied with power **(the resistor coupled to the capacitor determines the amount of current leak from the capacitor after the capacitor has been fully charged as disclosed in col. 4 lines 3-16)**, a first charge circuit arranged to charge the at least one first storage capacitor while the integrated circuit is being adequately supplied with power **(the interrogating field provided by the RFID interrogator 100 induces a current in the inductor 14 which charges the capacitor 12 as disclosed in col. 4 lines 47-53)**, and a logic circuit **(as disclosed in col. 3 lines 48-56)** configured and arranged for determining the disconnection time information on the basis of the discharge behavior, which is affected by the IC material and by radiation, of the at least one first storage capacitor **(the discharge behavior is affected by the IC material and temperature as disclosed in col. 5 lines 11-31 and col. 6 lines 28-51)**. Even though Paratore et al. fail to specifically disclose correcting the determined disconnection time information in dependence on the effects of at least one of the IC material and at least one radiation effect, and on the basis of the discharge behavior of the at least one first storage capacitor and on discharge behavior of a second storage capacitor of the integrated circuit, Paratore et al. disclose the timing module may include a resistor coupled to a charging capacitor **(col. 2 lines 23-26)**; the time can be calculated based on the rate of dissipation, which can be controlled through different valued resistors **(col. 2 lines 26-30)**; and increase in temperature can increase in conductivity in the resistor **(col. 5 lines 25-29)**. Since the timing module enables the user, upon

interrogating the RFID tag, to determine the precise length of time from the previous charge of the RFID tag as disclosed in col. 2 lines 13-15, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the length of time that an RFID tag is exposed to a certain environmental condition to be corrected in dependence on the effects of the IC material or temperature. One is motivated as such in order to provide a more accurate tracking and identifying environment-sensitive goods as disclosed in col. 1 lines 51-58. Furthermore, although Paratore et al. does not specifically disclose correcting the determined disconnection time information in dependence on the effects of the discharge behavior of a second storage capacitor of the integrated circuit, it would have been obvious to one having ordinary skill in the art at the time the invention was made to correct disconnection time information in dependence on the rate of dissipation of a second capacitor, since it has been held that mere duplication of the essential working part of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

-Regarding claims 16 and 19, Paratore et al. disclose a circuit for determining disconnection time information for a disconnection period in which disconnection period an integrated circuit of a data carrier designed for contactless communication with a communication partner device has not been adequately supplied with power **(the RFID tag which can measure the time that has elapsed after the last charging of the capacitor that acts as the main power source as disclosed in col. 2 lines 21-30)**, the circuit comprising

at least one first storage capacitor arranged in the integrated circuit for discharging from a first starting time when the integrated circuit is subsequently no longer adequately supplied with power **(the resistor coupled to the capacitor determines the amount of current leak from the capacitor after the capacitor has been fully charged as disclosed in col. 4 lines 3-16)**, a first charge circuit arranged to charge the at least one first storage capacitor while the integrated circuit is being adequately supplied with power **(the interrogating field provided by the RFID interrogator 100 induces a current in the inductor 14 which charges the capacitor 12 as disclosed in col. 4 lines 47-53)**, and a logic circuit **(as disclosed in col. 3 lines 48-56)** configured and arranged for determining the disconnection time information on the basis of the discharge behavior, which is affected by the IC material and by radiation, of the at least one first storage capacitor **(the discharge behavior is affected by the IC material and temperature as disclosed in col. 5 lines 11-31 and col. 6 lines 28-51)**. Even though Paratore et al. fail to specifically disclose correcting the determined disconnection time information in dependence on the effects of at least one of the IC material and at least one radiation effect, and on the basis of the discharge behavior of the at least one first storage capacitor and on discharge behavior of a second storage capacitor of the integrated circuit and of a temperature indication of the integrated circuit, Paratore et al. disclose the timing module may include a resistor coupled to a charging capacitor **(col. 2 lines 23-26)**; the time can be calculated based on the rate of dissipation, which

can be controlled through different valued resistors (**col. 2 lines 26-30**); and increase in temperature can increase in conductivity in the resistor (**col. 5 lines 25-29**). Since the timing module enables the user, upon interrogating the RFID tag, to determine the precise length of time from the previous charge of the RFID tag as disclosed in col. 2 lines 13-15, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the length of time that an RFID tag is exposed to a certain environmental condition to be corrected in dependence on the effects of the IC material or temperature. One is motivated as such in order to provide a more accurate tracking and identifying environment-sensitive goods as disclosed in col. 1 lines 51-58. Furthermore, although Paratore et al. does not specifically disclose correcting the determined disconnection time information in dependence on the effects of the discharge behavior of a second storage capacitor of the integrated circuit, it would have been obvious to one having ordinary skill in the art at the time the invention was made to correct disconnection time information in dependence on the rate of dissipation of a second capacitor, since it has been held that mere duplication of the essential working part of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Paratore et al. (U.S. PATENT NO. 6,294,997) in view of Heinrich et al. (U.S. PATENT NO. 6,404,325).

-Regarding claim 4, Paratore et al. disclose all the limitations as claimed in claim 1. However, Paratore et al. fail to specifically disclose the disconnection time information is used to decide whether the data carrier is to respond to certain prompt commands of the communication partner device.

Heinrich et al. disclose the data carrier is to respond to certain prompt commands of the communication partner device (**see col. 2 lines 28-25 and col. 5 lines 27-30**).

Therefore, it would have been obvious to one of ordinary skills in the art at the of invention to modify the integrated circuit of a data carrier as disclosed by Paratore et al. to respond to certain prompt commands as disclosed by Heinrich et al. One is motivated as such in order to make sure the voltage across C_{AUX} has not fallen to a threshold level where the information maintained in the mirror latches is no longer trustworthy.

6. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paratore et al. (U.S. PATENT NO. 6,294,997) in view of Heinrich (U.S. PATENT NO. 6,812,841).

-Regarding claims 14 and 15, Paratore et al. teach all the limitations as claimed in claim 11. However, Paratore et al. fail to disclose the logic circuit includes a comparator circuit configured and arranged to compare, respectively, charges of the first and second storage capacitors, and wherein an output from the comparator circuit is used for determining the disconnection time information.

Heinrich discloses a comparator circuit configured and arranged to compare, respectively, charges of the first capacitor, and wherein an output from the comparator circuit is used for determining the disconnection time information **(comparator circuit as disclosed in fig. 3 and further disclosed in col. 5 lines 21-65).**

Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the logic circuit of Paratore et al. to include the comparator circuit as disclosed by Heinrich and modify the VREF to couple to a second capacitor. One is motivated as such in prevent stray leakage which cause the voltage on capacitor 32 to drop to levels in which OR gate 26 is not activated.

7. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paratore et al. (U.S. PATENT NO. 6,294,997) in view of Forster (U.S. PATENT NO. 7,224,273).

-Regarding claims 17 and 18, Paratore et al. teach all the limitations as claimed in claim 11. However, Paratore et al. fail to disclose a temperature sensor configured and arranged to provide a signal representing the temperature indication, and wherein the determined disconnection time information is corrected, at least in part, on the basis of a temperature indication of the integrated circuit.

Forster discloses a temperature sensor configured and arranged to provide a signal representing the temperature indication, and wherein the

determined disconnection time information is corrected, at least in part, on the basis of a temperature indication of the integrated circuit (**temperature sensor 105 as disclosed in fig. 3 and fig. 5A and further disclosed in col. 9 lines 1-41**).

Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the circuit of Paratore et al. to include the temperature sensor as disclosed by Forster. One is motivated as such in order to provide a more accurate tracking and identifying environment-sensitive goods as disclosed in col. 1 lines 51-58.

Allowable Subject Matter

8. Claims 2, 3 and 6-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

9. Applicant's arguments filed 11/11/08 have been fully considered but they are not persuasive.

a. In page 9 of the remark, applicant argues that the asserted reference is cited for an embodiment that does not include and/or operate as claimed with two capacitive-based circuits (i.e., first storage capacitor and a second storage

capacitor) and, therefore, cannot be construed to operate in a similar manner for a rejection under §103(a).

-The examiner respectfully disagrees. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a second capacitor, since it has been held that mere duplication of the essential working part of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PING Y. HSIEH whose telephone number is (571)270-3011. The examiner can normally be reached on Monday-Thursday (alternate Fridays) 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay A. Maung can be reached on 571-272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. Y. H./
Examiner, Art Unit 2618

/Quochien B Vuong/
Primary Examiner, Art Unit 2618